

AMENDMENT TO THE DRAWINGS:

Please amend the drawings by substituting one sheet of replacement drawings with Figs. 1-5 for the original drawings herein. The changes are explained in the Remarks section that follows.

REMARKS

In the Office Action of January 24, 2007, the Examiner made a number of comments relative to the specification, the drawings and the claims.

In response to the first question on page 2 of the Office action, the answer is "yes," that the right hand edge of the first rectangle is aligned with the left hand edge of the next rectangle or face 12. These rectangles are faces 12, which are now identified in Fig. 4, as well as Fig. 5.

In response to the question on page 2 of the Office action, it is obvious even from that the quoted passage, that this means that each leading edge 6 lies on a "respective" line that is transverse to the longitudinal axis of the shaft.

In response to the next question, the leading edge 6 is a top edge while leading edges 11 are side edges extending down from the top leading edge 6 to form a three-sided leading edge.

With the amendment to the drawings, reference numbers for faces 12 and edges 13 and 14 in Fig. 5 have been added to Fig. 4. The view arrow, V, mentioned at page 6, line 6, of the specification has been added to Fig. 3, and has also been added to Fig. 5.

Reference letters have been added for the longitudinal centerline of the thread, CL, in Fig. 1 and Fig. 5, and for a radius R in Fig. 3.

The specification, on page 6, second full paragraph, first sentence, there is expressed the concept of a "circuit" portion of the thread. This has been amended to recite the more familiar term of a "turn" meaning one 360-degree loop of the thread around the shaft, where the start and finish points of the turn do not meet due to the spiral configuration of the thread along the shaft.

An object of the invention is incorporate a type of sawtooth configuration along at least a portion of the length

of the thread (See specification page 2, fourth paragraph). Fig. 5 shows a top view of the configuration of the six (6) teeth seen in Fig. 3. There are nine (9) teeth around half the circumference of the screw in Fig. 3, so the description of Fig. 5 on page 5, and on page 6, has been amended to recite that Fig. 5 shows a top view of "a portion" of a single turn around the screw.

To explain the drawings more completely, Fig. 1 shows a view of the screw as a whole and the spiral configuration of the thread. The scale is such that the cutting teeth would not be visible in any detail, and that is the purpose of the other drawings. However, centerline CL for one turn of the thread 2 is now illustrated in Fig. 1, and carried over to Fig. 5.

Fig. 3 is a half of a section taken in the plane indicated by line III-III in Fig. 1. Fig. 4 is a transverse cross section through a single tooth. Reference numbers 12, 13 and 14 have been added to Fig. 4. It should be noted that transition zone 16 and the base of the shaft 1 are shown in Fig. 4, but not in Fig. 5, to focus on the offset feature of the invention.

With respect to the matter of radial edges, a radius has been added in Fig. 3 and labeled R. The edge 6 refers to the top portion or the transverse cutting edge, whereas edge 11 refers to an edge along an outer side of the tooth pattern as seen in Fig. 5.

In the Office action, there were formal objections to claims 3 and 6, and these extra punctuation marks have been deleted by the amendment. Also, reference numbers in parentheses have been deleted from the claims as not being customary or required in U.S. practice.

The claims have also been amended to correct matters under 35 U.S.C. 112, second paragraph.

Claim 1 has now been amended to recite:

a thread extending for a plurality of turns around the shaft (Fig. 1), wherein a series of cutting teeth are formed along at least one half turn (Figs. 3 and 5), and wherein the cutting teeth having equal but opposite sides (Fig. 4) and are alternately offset to opposite sides of a longitudinal centerline of the thread (Fig. 5).

Rather than discuss the rejections against claims, which no longer read in the form that they were rejected, Applicant will distinguish the present claims from the applied art.

Auger EP 0501860 was cited for showing a thread with cutting teeth on a thread side facing away from the head that are alternately inclined to the left and right of a centerline.

Looking at Figs. 1, 8 and 9 of Auger, the cutting teeth are spaced in pairs at 180-degree intervals around the shaft, and do not form "a series of cutting teeth within one half turn of the screw thread," as now claimed in amended claim 1.

Also in Auger, each pair of teeth is identical to the preceding pair due to the twist of the screw thread, so that the pattern in each half turn is identical to the next half turn. The Auger pattern is a repeating pattern per half turn, rather than alternating teeth within a half turn.

In the Office action, Munz, DE 4206440, Figs. 3 and 4 was also said to provide a thread with a sawtooth profile with the features of claims 1-3 and 5-12.

Claim 1 has now been amended to recite:

a thread extending for a plurality of turns around the shaft, wherein a series of cutting teeth are formed along at least one half turn, and wherein the cutting teeth having equal but opposite sides and are alternately offset to opposite sides of a longitudinal centerline of the thread.

In Figs. 3 and 4 of Munz, the teeth are not alternately offset to opposite sides of the longitudinal centerline of the thread. Figs. 44-46 of Munz show a tooth configuration that provides an alternating protrusion and notch pattern, but to achieve this result Munz provides asymmetrical teeth that are

alternately reversed in position relative to each other. This is not the technique of the present invention and does not provide teeth having equal but opposite sides as shown in Fig. 4 of the present application.

The Applicant does not address the rejection of claims 11 and 12 over either of the base references in view of Leithold, because it is believed that claims now distinguish from the base reference in a manner not shown in Leithold.

The dependent claims have also been amended to recite claims in the form that is acceptable under 35 U.S.C. 112, second paragraph, and to further distinguish from the art of record.

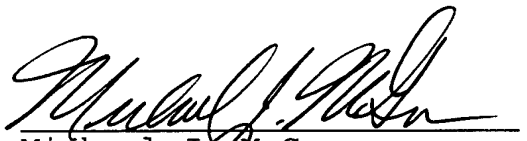
REQUEST FOR INTERVIEW

After the amendment, claims 1-14 are now pending. In view of the amendment and remarks, reconsideration of the application and a Notice Of Allowance for these claims is respectfully requested.

If after considering this Reply, if the Examiner has any questions or comments on Applicant's submission, Applicant would appreciate an telephonic Interview to try to reach a common understanding of the technical content of the application, the claims and the references before receiving another action. Please contact Applicant's attorney at the phone number below with a time that the Examiner would be available for such an Interview.

Respectfully submitted,

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